Which is the best (or preferred) method for determining “safe following distance” for a motorist who’s behind another vehicle?

A. The traffic column cited studies and testing by such agencies as the U.S. Department of Transportation and National Highway Traffic Safety Administration in noting the accepted rule of thumb for maintaining a safe minimum following distance is one car length for every 10 miles per hour of speed.
But several readers claimed a more reliable or valid method is to use the so-called “three-second rule.” Summarized in the Department of Motor Vehicles’ California Driver Handbook (page 37), it states “when the vehicle ahead of you passes a certain point (such as a sign), count ‘one-thousand-one, one-thousand-two, one-thousand-three.’ Counting these numbers takes approximately three seconds. If you pass the same point before you finish counting, you are following too closely.”

The handbook — which includes both sections of the California Vehicle Code and DMV-authored recommendations for what the agency considers “safe driving” — does not refer to the car-length rule in its section on tailgating.
One reader referred to the car-length rule as “incorrect and antiquated,” noting all vehicles aren’t the same length — another reason why the three-second rule is a smarter choice.

Note: Average lenght of vehicles is 15”: What is the Average Length Of A Car?

The average car length across all classes is around 14,7 feet or 4500 mm. I will calculate 15 feet.
“In my experience with errant drivers, trying to explain the three-second rule was like trying to teach algebra to them,” countered Mike Soubirous, a retired California Highway Patrol lieutenant.

Most people have a difficult time mentally working out a three-second following distance. You tell a driver to pick a stationary object, watch the car ahead, count three seconds, then, as you pass the same stationary object, you check your count. The first problem is not everyone counts at the same pace. If your count was less than three seconds, you increase your following distance, then recheck. By this system, you have to constantly check — which results in concentrating on something other than defensive driving.”

Soubirous, who rode CHP motorcycles on road patrol for more than 18 years, said defending a “following too closely” citation in traffic court is

difficult.
“Just trying to explain the three-second rule is difficult,” he said. “It’s hard to visualize. And if it’s not easy to apply, people won’t use it. Besides, once you find a safe three-second rule distance, why not keep that same imaginary distance between vehicles in your mind? Much easier. Explaining the car-length principle in court was easy for the judge and the violator to understand.”

So, how does one explain the “car-length rule” to someone riding a motorcycle?
“Tell them to imagine following at a distance of a car length for every 10 miles an hour on your speedometer,” Soubirous said. “This is easy for people to understand and visualize. It keeps them looking in front of them, not busy finding reference objects and then counting. That might be OK driving through the desert, but, in congested traffic areas, it is tough. A textbook method is not always practical or safe.

“I say, best to keep it simple, easy to use, easy to understand. It helps keep attention to the road instead of finding reference points and counting seconds. Drivers are already distracted enough. Let’s not overburden them with difficult tasks.”
Soubirous said, as an instructor in traffic school, he explained both rules to students.
“Everyone easily could understand the car-length rule,” he said. “However, it took some explaining and using a chalkboard to explain the three-second rule.” Source: Rick Davis

Confused about state or local traffic laws? Send questions and concerns, with your name, e-mail address, phone number and city of residence, toontheroad@pressenterprise.com. Or phone 951-368-9670.
https://www.pressenterprise.com/2014/10/12/on-the-road-more-than-one-way-to-determine-a-safe-following-distance/

How Many Car Lengths Between Cars Is The Recommended Following Distance?

The safe following distance depends on how fast your car is going at the moment. For every 10 miles per hour of speed, attempt to keep one car length between you and the other vehicle on the road.

Safe Following Distance

Maintain at least a three-second following distance to help avoid

dangerous situations.
1. Locate a fixed point ahead. It can be an overpass, a utility pole or a shadow across the road.
2. When the vehicle ahead of you passes that fixed point, count to yourself, “one thousand one, one thousand two, one thousand three.” If your vehicle passes the same fixed point when you say “one thousand three,” then you have a three-second safe following distance.
3. If your vehicle arrives at the fixed point before you reach the count of “one thousand three,” you are too close. Slow down slightly and increase the distance between you and the vehicle ahead.
4. Recheck against a new fixed point after you have increased your distance. You should be able to finish the count of “one thousand one, one thousand two, one thousand three” before you reach that fixed point.

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Follow the Three-Second Rule
The three-second rule is another way to determine the recommended following distance. Choose a point on the road and wait for the car in front of yours to reach that spot. Then start counting the number of seconds it takes for your car to arrive at that location.
If your count doesn’t reach three seconds, you’re likely too close to the other car. You should slow down and increase the distance between the vehicles.

Some drivers prefer to set up their following distance based on a shorter period of two seconds. However, it’s generally better to give yourself three seconds of following distance and response time.

https://www.carparts.com/blog/how-many-car-lengths-between-cars-is-the-recommended-following-distance/

Many resources will recommend different formulas or rules for calculating the safe following and stopping distances.

There are 3 basic methods + 4th is american disinfo

1, 1 vehicle per 10 mph
2, distance vehicle travel in 1 second (used in Europe) in 60 mph = 88 feet
3, 2 seconds to stationary object which passed vehicle at front (claimed in

USA but miscalculated)

4, mix of 2nd and 3rd. This fictious following distance is common in USA. **How many drivers were wrongly convincend of wrongdoing by miscalculated following distance in US's courts?**

Let's calculate 2 seconds following distance at 60 mph by methods:

1, 60 mph = 10 x 6 vehicles. 1 vehicle 15 feet = 90 feet
2, in 60 mph vehicle travel 88 feet in 1 second
3, if you personaly start calculating 2 seconds following distance to stationary object,
as is explained above, you will find out that it it is the same distance as point 1 a 2. This 3 methods are giving the same result!

4, common in USA: 2 seconds following distance by simply mix point 2 and point 3: They take distance traveled by speed in 1 second and multiply it by 2. in 60 mph = 88 feet in 1 second x 2 = 172 and this is 2 their seconds. But this do not fit to 1 vehicle per 10 mph. Then they get astronomical surreal numbers of following disatance which never exist.

New technology

Until now we were talking about measurement by itself. But with technology and radar at front
of truck we are able determine exact distance in seconds from vehicle at front.

Freightliner Cascadia has it on dashboard and above infos could be easily observed by drivers and safety department and it is 100% proof if all above is truth or not.

Cascadia has on dashboard even wrong distance between vehicles

There are 3 lines

Top line: Speed of vehicle at front
Middle line: Disance from that vehicle in time - seconds
Bottom line: It is number in feet which calculated middle line and top lane. It is not measured distance between 2 vehicles!

But by eye observation this number in feet is not distance between 2 vehicles. Real distance is half of this number.

For easiest calculation on interstate I count how many tractor trailers, in lane next to me, fit into gap between me and vehicle at front. Definitively not surreal numbers like 5, 6 etc. trucks. Cascadia has set Adaptive Cruise Control to 3.7 seconds following distance which is like 2 tractor trailers (65 feet length of average TT). So companies give drivers corectly set equipments but they are enforcing something else = following distance from point 4 above. So basicaly every single of their drivers do not follow company's policy of following distance in high traffic area like Mid-Atlantic and North-East. It is impossible. There is always someone who get into that large gap and this is rising chances of accidents.

This is american disinfo:

What about a safe following distance in car lengths? If you want to measure it in feet, a good rule of thumb is that you want to keep a distance of about 16 car lengths in front of you to give you enough time and space to come to an unexpected stop. For a semi-truck, you'll want to stay back even farther: 20 cars, or roughly 300 feet.

Wrongly calculated following distance - disinfo
https://www.smartmotorist.com/safe-following-distance

If we keep CHP officer"s recommendation 1 car lenghth per 10 miles per hour then this will not fit.

ACC Adaptive Cruise Control and CMS Collision Mitigation - iRV2 Forum
Note: This had been posted in 2012 when was V.1 Adaptive Cruise Control/Colision Mitigation System, (ACC/CMS), instaled on vehicles (until 2018. In 2018 V.2 of CMS started to be instaled)

The good: I have driven this coach now in some very heavy traffic conditions such as I-95 through DC area and Virginia..... 4 lanes, 65 mph, cars and trucks everywhere. Also have come to some heavy congestion on same roads with speeds from zero to crawling to 20 mph. In those conditions, if you don't mind leaving 2 or 3 three car lengths in front of you at a dead stop, the CMS system and ACC will do much of that coach control for you.... (But certainly not all.... dont think you can fall asleep or not pay attention) Everyone will love you in other lanes as all that distance in front of you is where every driver in the left or right lane that thinks your lane is better will use that space to insert themselves in front of you. Now that a car has inserted itself in front of you, the system will slow you down or hit the jake to drop you back more, which then permits the next car in an adjacent lane to insert itself into your lane, and the CMS will drop you back again.... I had 4 or 5 cars do that in succession.... as they

inserted, the system dropped me back each time. I didnt like that! When you are at 20-30 mph lets say, the ACC will feed your diesel and keep you behind the guy in front of you a very safe distance and my system seems to reduce your speed most by switching on the Jake brake to slow you down rather than apply the brakes. But, if you are the type of driver that likes to have the coach do all that speed regulating and braking and speeding up for you..... then, that may be one place where it makes some sense. I still like to drive.

The Bad: I really hate the system at highway speeds. I can make the distance that the Wabco OnGuard systems starts to get concered about a moving car supposedly in the lane in front of you from long, to medium, to short. Long is really long, and you will find your coach slowing down and "following" a car or truck so far in front of you that you have not even mentally processed that it is any issue to you at all... I like the concept of "Signal Detection". In Signal Detection, there are stimuli that have "signal value" which means that they have "meaning" to you. Then there are stimuli that are considered "noise". Noise is any stimulus that is irrelevant to the task at hand (eg. road signs or trees beside the road). Sometimes, noise can become signal such as when a tree has fallen onto your lane.

Now, the way I drive is that unless the car that is 20 car lengths in front of me is at a dead stop or moving 10 mph on an interstate, he is largely irrelevant to my driving (noise). If he is at a dead stop or driving 10, he becomes signal at some point and I have to pay attention. I dont know the actual distance, but the ACC long setting defines a car that is moving slower than you so far in the distance that you think is noise, as signal and slows you down. The real issue with ACC is if you are closing on the car (decreasing the distance between you and the signal), then the system defines the car as "signal", not noise, even if it is very far in front of you. So, the ACC does a lot of slowing and speeding based on objects that you, as the driver, probably are not worried about at all. Now you can make the distance shorter and that helps, but it still defines as a problem something that you would not.

Here is another example, you have decided that the distance in front of you is clear enough and you want to move into another lane and pass the car in your lane. You have to step on the diesel pedal and override the system. Since there are cars in the lane you want to move into, you want to get closer to the guy in front of you before you can move into the left lane. You can do that, by stepping on the gas pedal and overriding the system but as soon as you do that, you will be gaining on that car and your alarm will start loudly blaring repeatedly until you successfully move into the left lane and pass. But you better not be gaining on the car in front of you in

the left lane, either once you lane change or it will start screaming at you also. Very annoying and completely unnecessary.

Recapitulation: Proper following distance is 2 seconds = 1 vehicle per 10 mph. If take average vehicle lenghth is 15 feet then in 60 mph it is 6x15 = 90 feet.

Improper calculation of following distance (to which V.1 ACC/CMS was set) is: In 60mph vehicle travel 1 mile per minute. 1 mile = 5280 feet. 5280 : 60 (seconds) = 88 feet per second. If compare distance of vehicle per second (in 60mph) and rule 1 vehicle per 10 mph it is the same distance +/- 90 feet.
But it was done this way: Vehicle travel 88 fps in 60 mph so 2 seconds following distance = 2x88 = 172. Because ACC/CMS was set to 3.7 seconds but recalculated to feeet = 88 x 3.7 = 325. If we split 325 by average vehicle lenghth = 325:15 = 21.7. So that RV guy was basicaly right when he said that ACC/CMS start slowing at 20 vehicles lenghth. If 88 is already 2 seconds following distance then 1 second = half of 88 = 44 x 3.7 = 163. and 163x2 = 325.

I observed that semi-truck with V.1 ACC/CMS was set to +/- 5 tractor trailers. Typical tractor trailer with sleeper is 65 feet long so 65x5 = 325 feet : 15 feet of vehicle lenhgth = 22 vehicles.

Version.2 of ACC/CMS on semi-truck gives 100% proof of this miscalculation because now the system is set to 3.7 seconds, not recalculated to feet.

Some trucking companies, in good will, used ACC/CMS manufacturer's services masqueraded as safety. Drivers were losing safety and performance bonuses, being suspended, fired, quit, lost 401K, insurances etc. Trucking companies were also negatively affected by rised turnover and damaged reputation between truckers. Affected companies were complaining that there is shortage of truck drivers, invest money to development of autonomous trucks. It would be smarter to do things right and try to keep drivers instead forcing them out.

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